

## A NEW SPECIES OF EREMOPHILA FROM SOUTH AUSTRALIA

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### SUMMARY

In this paper is described *Eremophila hillii*, a species so far known only from two collections made near Ooldea, South Australia. It belongs to the section *Stenochilus* (R.Br.) Benth., but differs markedly from the other species placed herein by its small obovate to suborbicular crenate leaves.

*Eremophila hillii* E. A. Shaw, sp. nov.

Section *Stenochilus* (R.Br.) Benth., Fl. Austr. 5 (1870) 27.

*Frutex* usque ad 70 cm altus, intricate ramosus, habitu cumulus, pilis erectis, albidis vel griseis, multiramis vel stellatis vel  $\pm$  plumosis vestitus. *Rami* plerumque cicatricibus foliorum delapsorum praediti; iuniores dense tomentosi sed vestitiores glabrescentes. *Folia* matura ca. 7-10 mm x 4-8 mm, dense tomentosa, spiraliter disposita ut videtur, versus apices ramorum dense conferta, obovata ad obrullata vel suborbicularis, sessilia vel in petiolum brevissimum angustata, plerumque ad apicem rotundata vel subacutata raro acutata, raro integra plerumque crenata. *Flores* singulatim in axillis foliorum summorum dispositi; pedicelli ca. 2-3 mm longi dense tomentosi. *Sepala* 5 imbricata, post anthesin probabiliter non aucta; exteriora 3 ca. 5.2-7.0 mm longa x 2.5-3.4 mm lata, ovata ad deltata ad apicem rotundata vel subacutata, in superficiebus ambabus dense tomentosa; interiora 2, ca. 4.5-5.5 mm longa x 1.8-2.6 mm lata, plerumque ovato-lanceolata subacutata, extus dense tomentosa sed intus basem versus glabrescentia. *Corolla* ca. 3.0-3.5 cm longa in vivo rubra, in sicco cinnabarina ad lateritia vel interdum flavida, in statibus ambabus intus pallidior; extus pilis brevibus glandulosis sparsis aequaliter praedita, intrinsecus pilis glandulosis irregulatim sparsis, utrinque basem versus (sub segmentis calycis) glabrescens; supra ovarium corolla subglobosa expansa deinde parum contracta et supra denuo ampliata et leviter arcuata; lobi labii superioris 4 consimiles longitudine, ca. 2.0-3.5 mm longi, triangulares (ei laterales interdum oblique triangulares) acuti; labium inferius ca. 12-16 mm longum, loratum reflexumque, plerumque subacutum. *Stamina* 4, inter se non valde diversa, ca. 3.0-4.5 mm, longe exserta, filamentis complanatis et pilis glandulosis aspersis praecipue ad basem vestitis. *Ovarium* ca. 2.5-3.5 mm longum, glabrum ovoideum, biloculare ovulis 2 in quoque loculo; stylus ca. 3.8-4.5 cm longus gracilis et glaber. *Fructus* ignotus. *Semina* ignota.

*HOLOTYPE*: ca. 5 km north of Ooldea; 20.9.1960; P. Wilson 1795. Sandhills. Rounded bush 2 ft. high, flower red. Leaves whitish. — AD 96131130!

*Shrub* to ca. 70 cm in height, intricately branched and mounded in habit, covered with white or pale grey many-branched, stellate or  $\pm$  plumose erect

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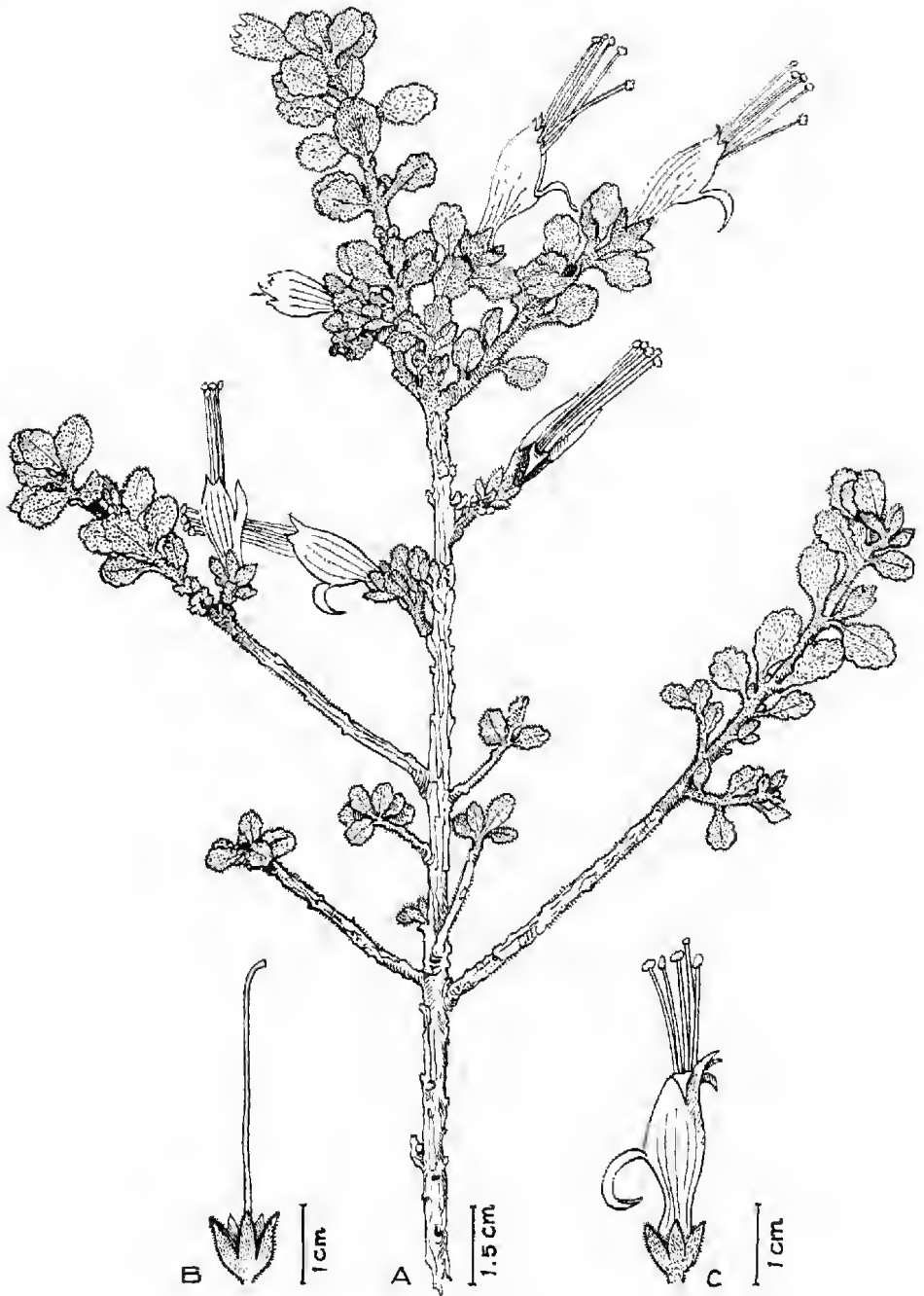


Fig. 1. *Eremophila hillei* E. A. Shaw. A, flowering branch; B, flower with corolla removed; C, entire flower—(all ex Wilson 1795).

hairs. Branches usually with rather conspicuous leaf scars, the younger ones densely tomentose, but the older ones glabrescent. Leaves ca. 7-10 mm x 4-8 mm when mature, densely tomentose, apparently in a spiral sequence, very densely crowded towards the branch tips, obovate to obovate-triangular, apex usually rounded to subacute, rarely acute, sessile or tapering into a very short petiole, rarely entire usually crenate; midrib not visible above, slightly raised abaxially. Flowers single, in the axils of upper leaves; pedicels ca. 2-3 mm long, densely tomentose; Calyx segments 5, quincuncial, probably not enlarged after flowering; 3 outer sepals ca. 5.2-7.0 mm long x 2.5-3.4 mm wide, ovate to deltate, at apex rounded to subacute, densely pubescent on both surfaces; 2 inner sepals shorter and narrower, ca. 4.5-5.5 mm long x 1.8-2.6 mm wide, usually ovate-lanceolate, subacute, abaxially densely pubescent, but on the inside glabrescent towards the base. Corolla ca. 3.0-3.5 cm long, *in vivo* bright red, *in sicco* deep pink to brick-red or sometimes yellowish, in both states paler on the interior; exterior with sparsely and evenly scattered short glandular hairs, glabrescent towards the base (under calyx), interior with scattered glandular hairs, glabrescent towards the base; corolla expanded over the ovary, then contracted and again expanded and slightly flared and curved above, 5-lobed; the 4 lobes of the upper lip all  $\pm$  the same length, ca. 2.0-3.5 mm long, triangular (the lateral ones sometimes obliquely so) and acute; the lower lip ca. 12-16 mm long, deeply cut into the tube, ligulate and usually subacute, reflexed. Stamens 4, all  $\pm$  the same length, ca. 3.0-4.5 mm, much exerted, slightly flattened and bearing scattered glandular hairs, especially near the base. Ovary ca. 2.5-3.5 mm long, glabrous,  $\pm$  ovoid, bilocular with 2 ovules per locule; style ca. 3.8-4.5 cm long, slender and glabrous. Fruit and seeds unknown.

South Australia: ca. 5 km north of Ooldea; 20.9.1960; P. Wilson 1795. Sandhills. Rounded bush 2 ft. high, flower red. Leaves whitish. — AD 96131130 (*holotypus*): 2 km south of Ooldea; 21.9.1960; D. J. E. Whibley 753 — AD 96104227.

*Distribution*: *E. hillii* is so far known only from these two collections made at Ooldea on the Transcontinental rail line. When these specimens were found during a routine sorting of *Myoporaceae* I thought it possible that they had somehow been introduced from Western Australia, but they belong to none of the described species from that State. It is likely that *E. hillii* may be found to the north of the rail line; this is an area in which very few collectors have worked.

*Discussion*: *E. hillii* belongs to Sect. *Stenochilus* of *Eremophila*, a rather small group; Kränzlin (1929) who treated it as a genus, *Stenochilus* R.Br., distinct from *Eremophila*, included only 15 species. They are well distinguished from other species of *Eremophila* (s.l.) by having the lowest segment of the 5-lobed perianth cut much more deeply into the tube (4-6 times) than do the others so as to form a narrow tongue which is usually reflexed. *E. hillii* differs most markedly from all these 15 species cited by Kränzlin by having small obovate to suborbicular crenate leaves.

So far as I know, there has been described since 1929 only one species of *Eremophila* belonging to this section. This species, *E. virens* C. A. Gardner (1942) from Western Australia, differs from *E. hillii* in several respects, for example, height (3-5 m), leaf shape and size (generally lanceolate and up to 7.2 cm long), and corolla colour and size (green, 1-3 cm long). *E. magilliorayi* J.M.Black (1926), included under section *Stenochilus* in the key to *Eremophila* in Black's Flora of South Australia (1957), was not known to Kränzlin, but differs from *E. hillii* in having much longer (1.5-6 cm) narrow-lanceolate leaves, smaller floral organs, and calyx segments valvate rather than quincuncial.

*E. hillii* seems to be most closely related to *E. glabra* (R.Br.) Ostenf.; in its usually accepted delimitation *E. glabra* includes quite a wide range of forms, many of which have a tomentum like that of *E. hillii* and flowers practically indistinguishable from those of the *Ooldea* plants. However, plants of *E. glabra* generally have leaves which are  $\pm$  lanceolate and 1.5-5 cm long; I have seen none which approach the crenate, obovate to suborbicular leaves of *E. hillii* and I believe that the recognition of the latter as a distinct species is warranted.

This species is named in honour of Mr. Ronald Hill of the Botanic Garden, Adelaide, who has a wide knowledge of this genus and a keen interest in it.

#### ACKNOWLEDGMENTS

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